



## Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-349



## Warfighter Information Network-Tactical Increment 2 (WIN-T Inc 2)

As of FY 2017 President's Budget

Defense Acquisition Management  
Information Retrieval  
(DAMIR)

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## Common Acronyms and Abbreviations for MDAP Programs

Acq O&M - Acquisition-Related Operations and Maintenance  
ACAT - Acquisition Category  
ADM - Acquisition Decision Memorandum  
APB - Acquisition Program Baseline  
APPN - Appropriation  
APUC - Average Procurement Unit Cost  
\$B - Billions of Dollars  
BA - Budget Authority/Budget Activity  
Blk - Block  
BY - Base Year  
CAPE - Cost Assessment and Program Evaluation  
CARD - Cost Analysis Requirements Description  
CDD - Capability Development Document  
CLIN - Contract Line Item Number  
CPD - Capability Production Document  
CY - Calendar Year  
DAB - Defense Acquisition Board  
DAE - Defense Acquisition Executive  
DAMIR - Defense Acquisition Management Information Retrieval  
DoD - Department of Defense  
DSN - Defense Switched Network  
EMD - Engineering and Manufacturing Development  
EVM - Earned Value Management  
FOC - Full Operational Capability  
FMS - Foreign Military Sales  
FRP - Full Rate Production  
FY - Fiscal Year  
FYDP - Future Years Defense Program  
ICE - Independent Cost Estimate  
IOC - Initial Operational Capability  
Inc - Increment  
JROC - Joint Requirements Oversight Council  
\$K - Thousands of Dollars  
KPP - Key Performance Parameter  
LRIP - Low Rate Initial Production  
\$M - Millions of Dollars  
MDA - Milestone Decision Authority  
MDAP - Major Defense Acquisition Program  
MILCON - Military Construction  
N/A - Not Applicable  
O&M - Operations and Maintenance  
ORD - Operational Requirements Document  
OSD - Office of the Secretary of Defense  
O&S - Operating and Support  
PAUC - Program Acquisition Unit Cost

PB - President's Budget  
PE - Program Element  
PEO - Program Executive Officer  
PM - Program Manager  
POE - Program Office Estimate  
RDT&E - Research, Development, Test, and Evaluation  
SAR - Selected Acquisition Report  
SCP - Service Cost Position  
TBD - To Be Determined  
TY - Then Year  
UCR - Unit Cost Reporting  
U.S. - United States  
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

## Program Information

**Program Name**

Warfighter Information Network-Tactical Increment 2 (WIN-T Inc 2)

**DoD Component**

Army

## Responsible Office

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**Date Assigned:** July 20, 2015

## References

**SAR Baseline (Production Estimate)**

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated March 8, 2010

**Approved APB**

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated June 21, 2015

## Mission and Description

Warfighter Information Network-Tactical Increment 2 (WIN-T Inc 2) provides the Army with On-The-Move (OTM) networking capability. The WIN-T Inc 2 network retains capabilities delivered by WIN-T Inc 1 and by leveraging proven Government and commercial technologies, adds greater network throughput and automated network management to optimize planning (to include spectrum use), initialization, monitoring and troubleshooting. WIN-T Inc 2 employs satellite communication OTM to extend the network in maneuver Brigade Combat Teams to Company-level. Using equipment mounted on combat platforms, WIN-T Inc 2 delivers a mobile capability that reduces reliance on fixed infrastructure and allows key leaders to move on the battlefield while retaining situational awareness and mission command capabilities. Using the Highband Networking Radio, with the Highband Networking Waveform and high performance antennas, the WIN-T Inc 2 line-of-sight network offers an adaptive 30 Megabit per second aggregate throughput to key leaders in their Command Post or in their vehicle. The WIN-T Inc 2 network is self-forming, which means that it automatically creates transmission paths based on terrain and environmental conditions; and self-healing, meaning that the paths will automatically re-route traffic to complete network transactions and calls even if one or more nodes break down or lose connectivity. This offers greater network reliability and better end-to-end connectivity than traditional point-to-point networks. WIN-T Inc 2 introduces the network management capability needed to keep the mobile and dispersed forces networked through automated planning, initialization, monitoring, and troubleshooting. Finally, WIN-T Inc 2 adopts "Colorless Core" technology that encrypts both classified and unclassified user information in the network and minimizes the number of users on the "core" of the network. The Colorless Core allows commanders to utilize the tactical network without fear of the enemy intercepting information. Colorless Core is a technical insertion in the WIN-T Inc 1b network which enables information sharing between WIN-T Inc 1b and WIN-T Inc 2.

WIN-T Inc 3 developed NetOps software and NetCentric Waveform updates will be inserted into WIN-T Inc 2 equipped units.

## Executive Summary

The following WIN-T Inc 2 New Equipment Training and New Equipment Fielding activities were completed during 2015: 2/82 Infantry Brigade Combat Team (IBCT) (Airborne) at Fort Bragg; 1st Armored Division (AD) Headquarters and 1/1 Armor Division Stryker BCT (SBCT) at Fort Bliss; 3/2 and 2/2 SBCTs at Joint Base Lewis-McChord; 4/10 IBCT (Mountain) at Fort Polk (reflagged as 3/10); 2/101 and 3/101 IBCT (Air Assault) Engineer Company and Maneuver Support Battalion additions at Fort Campbell; 2/82 IBCT (Airborne) Engineer Company and Maneuver Support Battalion additions at Fort Bragg; 1st Cavalry Division Headquarters at Fort Hood; and the 25th Infantry Division Headquarters at Schofield Barracks.

101st Air Assault Division Headquarters Tactical Communications Nodes were deployed and integrated into the Africa Command overall mission support network as part of Operation United Assistance. The 82d Airborne Division Headquarters, 2/82 IBCT and 1/10 Mountain IBCT deployed in support of Operation Inherent Resolve.

During 2015, WIN-T Inc 2 successfully completed support to 2/1 Armor BCT and Network Integration Evaluation 15.2 and 16.1. WIN-T Increment 2 participated as a baseline system in both events.

On February 4, 2015, the Office of the Deputy Assistant Secretary of Defense for Systems Engineering (ODASD(SE)) and the Defense Contract Management Agency conducted a Program Support Assessment at the General Dynamics facility in Taunton, Massachusetts. The review supported the ODASD(SE) assessment for the FRP Decision Review. The program was assessed in five categories: Mission Capabilities, Resources, Management, Technical Process and Performance. The evaluation showed mature, stable and disciplined processes that are in accordance with DoD policy/guidelines. The team determined that the program was at low risk in proceeding to FRP.

On May 29, 2015, the program office successfully completed Record Testing for the Joint Interoperability Certification 2015 with 100% of the test threads completed with no issues. Certification was granted on January 15, 2016.

On June 3, 2015, the DAE authorized entry into FRP for WIN-T Inc 2. The ADM required that the Army: a) Fund the program in accordance with the validated SCP; b) Submit a corrective action plan to the DAE by June 30, 2015 to address Stryker integration issues and improvements to Network Operations tools and training to optimize performance of the Highband Networking Waveform, Tactical Relay-Tower, and Range Throughput Extension Kit; and c) Provide to the DAE an independent cyber design and implementation assessment using a system analysis no later than September 30, 2015 which identifies program cyber vulnerabilities and provides corrective action recommendations for future implementation. The program office completed all three ADM actions, received DAE concurrence, and is working to execute corrective actions as outlined and in accordance with the submitted plans.

On June 12, 2015, the Army Communications-Electronics Command (CECOM) granted WIN-T Inc 2 Full Materiel Release (FMR). FMR was based on satisfying conditions set forth by CECOM in a Conditional Materiel Release dated November 8, 2012.

On June 21, 2015, the DAE approved the WIN-T Inc 2 FRP APB. This APB provides updated program cost thresholds and establishes acquisition and sustainment affordability caps.

In 2014 the program experienced a unit cost increase greater than or equal to the significant cost growth threshold, resulting in a significant Nunn-McCurdy cost breach to the PAUC and APUC against its original APB. Congressional notification of this Nunn-McCurdy breach was completed on February 25, 2015. The program office is aggressively managing cost growth.

The program office is using Alpha contracting processes to negotiate a follow-on production contract. The program office held a technical integrated product team discussions and reviews during September through December 2015. Meetings are continuing in FY 2016. On January 8, 2016, a justification and authorization was signed to allow extension of the current production contract period of performance into FY 2017 to ensure required equipment can be procured and that services can be provided in support of fielded units.

The FY 2016 PB request decremented \$88M in FY 2016 Procurement funding and rescinded \$40M in FY 2014 Procurement funding. The impact is procuring one less IBCT, one less Division and one less IBCT Engineer Company and Maneuver Support Battalion. In the FY 2017 PB, the program received decrements totaling \$443.7M across FY 2017 to FY 2021, including a reduction in FY 2017 Procurement funding of \$228M. This caused a major reduction in units procured from FY 2017 to FY 2021 and slipped procurement beyond the FYDP and into the Extended Planning Period to include an additional year of procurement. It reduces FY 2017 procurement to the minimum sustaining rate. Any further funding decrements in FY 2017 will cause a break in production and the loss of economic order quantities.

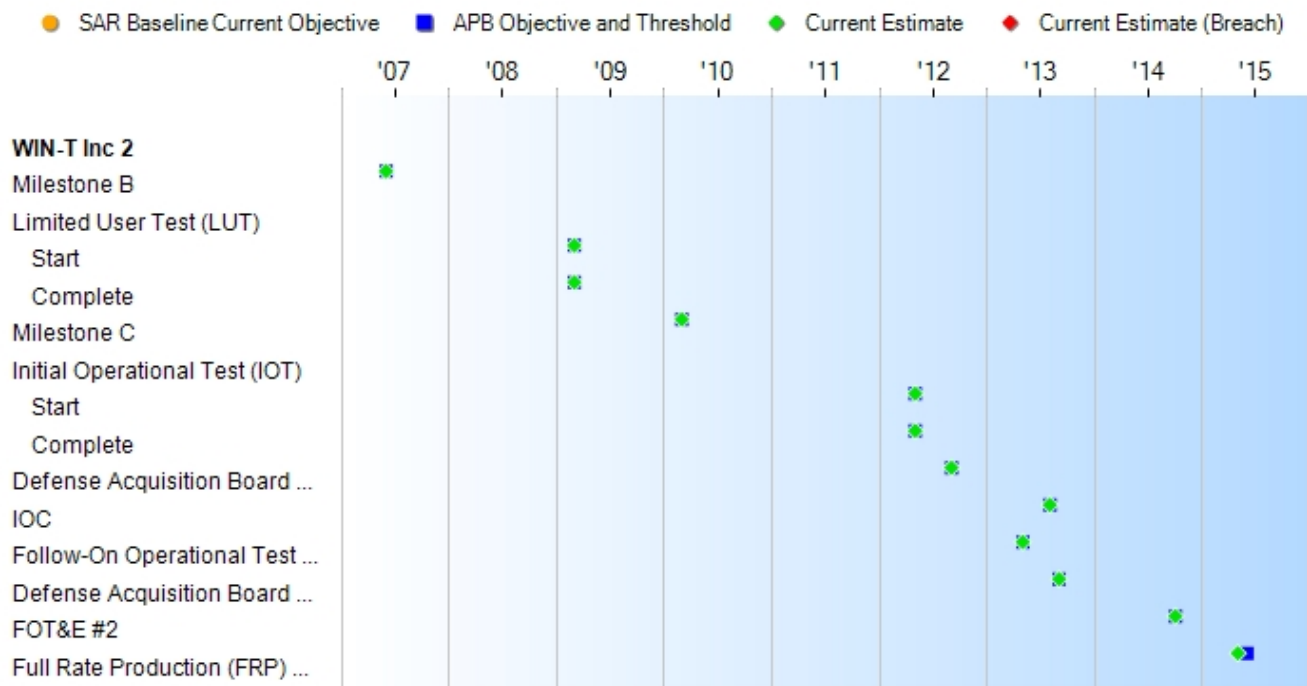
There are no significant software-related issues with this program at this time.



## Threshold Breaches

APB Breaches			Explanation of Breach
<b>Schedule</b>		<input type="checkbox"/>	The RDT&E cost breach in FY 2015 is due to an increase in FY 2017 to FY 2021 funding to provide additional capability to develop small, phased array satellite communication on-the-move product for armored platforms. A Program Deviation Report will be submitted.
<b>Performance</b>		<input type="checkbox"/>	
<b>Cost</b>	RDT&E	<input checked="" type="checkbox"/>	
	Procurement	<input type="checkbox"/>	
	MILCON	<input type="checkbox"/>	The Nunn-McCurdy cost breach against the original APB was previously previously in the December 2014 SAR.
	Acq O&M	<input type="checkbox"/>	
<b>O&amp;S Cost</b>		<input type="checkbox"/>	
<b>Unit Cost</b>	PAUC	<input type="checkbox"/>	
	APUC	<input type="checkbox"/>	
Nunn-McCurdy Breaches			
<b>Current UCR Baseline</b>			
	PAUC	None	
	APUC	None	
<b>Original UCR Baseline</b>			
	PAUC	Significant	
	APUC	Significant	

## Schedule



Schedule Events				
Events	SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Current Estimate
Milestone B	Jun 2007	Jun 2007	Jun 2007	Jun 2007
Limited User Test (LUT)				
Start	Mar 2009	Mar 2009	Mar 2009	Mar 2009
Complete	Mar 2009	Mar 2009	Mar 2009	Mar 2009
Milestone C	Feb 2010	Mar 2010	Mar 2010	Mar 2010
Initial Operational Test (IOT)				
Start	Nov 2011	May 2012	May 2012	May 2012
Complete	Nov 2011	May 2012	May 2012	May 2012
Defense Acquisition Board Review	N/A	Sep 2012	Sep 2012	Sep 2012
IOC	Nov 2012	Aug 2013	Aug 2013	Aug 2013
Follow-On Operational Test and Evaluation (FOT&E) #1	N/A	May 2013	May 2013	May 2013
Defense Acquisition Board Review #2	N/A	Sep 2013	Sep 2013	Sep 2013
FOT&E #2	N/A	Oct 2014	Oct 2014	Oct 2014
Full Rate Production (FRP) Decision Review	Feb 2012	Jun 2015	Jun 2015	May 2015

**Change Explanations**

None

**Notes**

The FRP Decision Review was held on May 11, 2015. The program was granted approval for FRP; the ADM in support of this decision was signed by the DAE on June 3, 2015.

## Performance

Performance Characteristics				
SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate
Net Ready				
The system must fully support execution of all operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net-Centric military operations to include 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) IA requirements including availability, integrity, authentication, confidentiality, and non-repudiation, issuance of an ATO by the DAA, and 5) Operationally effective information exchanges; and mission critical performance and information assurance attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and	The system must fully support execution of all operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net-Centric military operations to include 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) IA requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an ATO by the DAA, and 5) Operationally effective information exchanges; and mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.	The system must fully support execution of joint critical operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for transition to Net-Centric military operations to include 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) IA requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an IATO by the DAA, and 5) Operationally effective information exchanges; and mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.	Achieved threshold at IOT.	The system must fully support execution of all operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net-Centric military operations to include 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) IA requirements including availability, integrity, authentication, confidentiality, and nonrepudiation, issuance of an ATO by the DAA, and 5) Operationally effective information exchanges; and mission critical performance and information assurance attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.

system integrated architecture views.				
<b>Network Management</b>				
Increment 2 will enable the BCT S6 NetOps managers to plan, monitor, prioritize, control and visually display (e.g., current network status and connectivity) its WIN-T equipped units (Bde, Bn, Co) that connect: Objective: Top Secret, Secret, and Unclassified users.	Increment 2 will enable the BCT S6 NetOps managers to plan, monitor, prioritize, control and visually display (e.g., current network status and connectivity) its WIN-T equipped units (Bde, Bn, Co) that connect: Objective: Top Secret, Secret, and Unclassified users.	Increment 2 will enable the BCT S6 NetOps managers to plan, monitor, prioritize, control and visually display (e.g., current network status and connectivity) its WIN-T equipped units (Bde, Bn, Co) that connect: Threshold: Secret and Unclassified users.	Achieved threshold at IOT.	Inc 2 will enable the BCT S6 NetOps managers to plan, monitor, prioritize, control and visually display (e.g., current network status and connectivity) its WIN-T equipped units (Bde, Bn, Co) that connect: Objective: Top Secret, Secret, and Unclassified users.
<b>Information Dissemination</b>				
Increment 2 will provide a transport capability that enables battle command and situational awareness data message information to be exchanged within a BCT's WIN-T Increment 2 enabled ATH platforms and to its WIN-T enabled ATH Divisional HQ: Objective: Critical survival information (Category 1) delivery in <0.5 seconds (95% of completed messages) and time sensitive information (Category 2) in <1 seconds (92% of completed messages).	Increment 2 will provide a transport capability that enables battle command and situational awareness data message information to be exchanged within a BCT's WIN-T Increment 2 enabled ATH platforms and to its WIN-T enabled ATH Divisional HQ: Objective: Critical survival information (Category 1) delivery in <0.5 seconds (95% of completed messages) and time sensitive information (Category 2) in <1 seconds (92% of completed messages).	Increment 2 will provide a transport capability that enables battle command and situational awareness data message information to be exchanged within a BCT's WIN-T Increment 2 enabled ATH platforms and to its WIN-T enabled ATH Divisional HQ: Threshold: Critical survival information (Category 1) delivery in < or = to 5 seconds (95% of completed messages) and time sensitive information (Category 2) in <8 seconds (92% of completed messages).	Achieved threshold at IOT.	Inc 2 will provide a transport capability that enables battle command and situational awareness data message information to be exchanged within a BCT's WIN-T Inc 2 enabled ATH platforms and to its WIN-T enabled ATH Divisional HQ: Objective: Critical survival information (Category 1) delivery in <0.5 seconds (95% of completed messages) and time sensitive information (Category 2) in <1 seconds (92% of completed messages).
<b>Force Protection Armor required for protection of passengers inside the vehicle cab from small arms fire, mines, and other anti-vehicle/personnel threats</b>				
Increment 2 unique vehicles require	N/A	N/A	Achieved threshold at IOT.	Increment 2 unique vehicles require armor

armor kits for protection of passengers inside the vehicle cab from small arms fire, mines, and other anti-vehicle/personnel				kits for protection of passengers inside the vehicle cab from small arms fire, mines, and other anti-vehicle/personnel threats (IAW JROCM 120-05).
<b>Mobile Throughput For Brigade/Battalion maneuver commanders and their CPs</b>				
Increment 2 will enable selected warfighters (Bde/Bn maneuver commanders and their CPs) to conduct decisive operations while moving "cross-country" utilizing satellite communications: Objective: Ground vehicles: from 0 to 45 mph with 4 Mbps per link available for user data.	Increment 2 will enable selected warfighters (Bde/Bn maneuver commanders and their CPs) to conduct decisive operations while moving "cross-country" utilizing satellite communications: Objective: Ground vehicles: from 0 to 45 mph with 4 Mbps per link available for user data.	Increment 2 will enable selected warfighters (Bde/Bn maneuver commanders and their CPs) to conduct decisive operations while moving "cross-country" utilizing satellite communications: Threshold: Ground vehicles: from 0 to 25 mph with 256 Kbps per link available for user data.	Achieved threshold at PQT -G (DT) in 2011. User feedback from IOT indicated potential mobility and connectivity issues. Mobility and connectivity issues demonstrated significant improvement at the FOT in May 2013.	Inc 2 will enable selected warfighters (Bde/Bn maneuver commanders and their CPs) to conduct decisive operations while moving "cross-country" utilizing satellite communications: Objective: Ground vehicles: from 0 to 45 mph with 4 Mbps per link available for user data.

### Requirements Reference

CPD Revision 1 dated February 14, 2012 as modified by Revision 3 approved October 17, 2014

### Change Explanations

None

### Notes

JROCM 069-15 of June 24, 2015 revalidated the program and established thresholds for cost growth and reductions in end item quantities.

Demonstrated performance is as demonstrated at the PQT-G of 2011 and the IOT of May 2012 and documented in the Operational Test Agency Evaluation Report for the WIN-T Inc 2 dated July 2012.

**Acronyms and Abbreviations**

ATH - At-The-Halt  
ATO - Authority to Operate  
BCT - Brigade Combat Team  
Bde - Brigade  
Bn - Battalion  
Co - Company  
CP - Command Post  
DAA - Designated Approving Authority  
DISR - Department of Defense Information Technology Standards and Profile Registry  
DT - Development Test  
FOT - Follow-On Test  
GIG - Global Information Grid  
HQ - Headquarters  
IA - Information Assurance  
IATO - Interim Authority to Operate  
IAW - In Accordance With  
IOT - Initial Operational Test  
IT - Information Technology  
JROCM - Joint Requirements Oversight Council Memorandum  
Kbps - Kilobits Per Second  
KIPs - Key Interface Profiles  
Mbps - Megabits Per Second  
mph - miles per hour  
NCOW - Network Centric Operations and Warfare  
NetOps - Network Operations  
PQT-G - Production Qualification Testing - Government  
RM - Reference Model  
S6 - Battalion or Brigade Communications Cell  
TV - Technical View

## Track to Budget

### RDT&E

Appn	BA	PE
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Army 2040 07 0370349A

Project	Name
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EE7 WIN-T Inc 2 Initial Networking

**Notes:** This was not a new start in FY 2015. This effort was funded under 0603782A Project 367 through FY 2014. It is currently funded under PE 0310349A, Project EE7.

Army 2040 04 0603782A

Project	Name
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355 WIN-T DEM/VAL/Warfighter Information Network Tactical - DEM/VAL (Sunk)

367 WIN-T DEM/VAL/Warfighter Information Network Tactical - DEM/VAL (Sunk)

**Notes:** Project 367 began in FY 2009 for WIN-T Inc 2 exclusively. Prior to FY 2009 Project 355 was a shared line for both WIN-T Inc 2 and WIN-T Inc 3.

### Notes

PE number changed from 0310349A to 0370349A to reflect accurate account code.  
BA number changed from 03 to 07 to reflect accurate account code.

### Procurement

Appn	BA	PE
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Army 2035 04 0310706A

Line Item	Name
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BS9741 WIN-T INCREMENT 2 Spares

Army 2035 02 0310706A

Line Item	Name
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BW7115 Increment 2 Initial Networking On The Move

### Notes

The parent Line Item for the WIN-T Inc 2 Spares (BS9741) is Initial Spares - C&E (BS9100). The parent Line Item for the WIN-T Inc 2 procurement (BW7115) is Win-T - Ground Forces Tactical Network (BW7100).



## Cost and Funding

### Cost Summary

Total Acquisition Cost							
Appropriation	BY 2010 \$M			BY 2010 \$M	TY \$M		
	SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Production Estimate	Current APB Production Objective	Current Estimate
RDT&E	264.7	260.8	286.9	289.2 <sup>1</sup>	266.5	262.3	296.5
Procurement	4421.3	9128.5	9800.0	9296.1	4730.4	11089.6	11364.8
Flyaway	--	--	--	5992.9	--	--	7205.5
Recurring	--	--	--	5593.8	--	--	6753.8
Non Recurring	--	--	--	399.1	--	--	451.7
Support	--	--	--	3303.2	--	--	4159.3
Other Support	--	--	--	2853.0	--	--	3604.9
Initial Spares	--	--	--	450.2	--	--	554.4
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	4686.0	9389.3	N/A	9585.3	4996.9	11351.9	11661.3

<sup>1</sup> APB Breach

#### Current APB Cost Estimate Reference

Army Cost Position (ACP) dated April 28, 2015

#### Confidence Level

Confidence Level of cost estimate for current APB: 50%

The ACP is considered low risk due to the Increment 2 phase of its life cycle. The variability of funding and corresponding changes in procurement quantities are the only identifiable risks.

Total Quantity			
Quantity	SAR Baseline Production Estimate	Current APB Production	Current Estimate
RDT&E	56	56	56
Procurement	2160	3674	3674
Total	2216	3730	3730

#### Quantity Notes

The unit of measure is a combination of communications nodes which vary in capability. The WIN-T Inc 2 unit of measure is comprised of Tactical Communications Nodes, Points of Presence, and Soldier Network Extensions.

## Cost and Funding

### Funding Summary

Appropriation Summary									
FY 2017 President's Budget / December 2015 SAR (TY\$ M)									
Appropriation	Prior	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
RDT&E	258.4	3.8	4.9	6.0	4.8	5.1	13.5	0.0	296.5
Procurement	2767.9	456.1	311.8	625.4	612.9	712.8	679.3	5198.6	11364.8
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2017 Total	3026.3	459.9	316.7	631.4	617.7	717.9	692.8	5198.6	11661.3
PB 2016 Total	3066.3	547.8	545.6	666.9	678.4	755.3	714.7	4481.2	11456.2
Delta	-40.0	-87.9	-228.9	-35.5	-60.7	-37.4	-21.9	717.4	205.1

#### Funding Notes

The FY 2016 PB request decremented \$88M in FY 2016 Procurement funding and rescinded \$40M FY 2014 Procurement funding. The impact is procuring one less Infantry Brigade Combat Team (IBCT), one less Division and one less IBCT Engineer Company and Maneuver Support Battalion. In the FY 2017 PB the program received decrements totaling \$443.7M across FY 2017 to FY 2021, including a reduction in FY 2017 Procurement funding of \$228M. This caused a major reduction in units procured from FY 2017 through FY 2021 and slipped procurement beyond the FYDP and into the Extended Planning Period to include an additional year of procurement. It reduces FY 2017 procurement to the minimum sustaining rate. Any further funding decrements in FY 2017 will cause a break in production and the loss of economic order quantities.

Node counts in FY 2017 through FY 2019 reflect the lateral transfer of Soldier Network Extensions (SNE) from previously fielded units, hence fewer nodes are required. Funding in FY 2019 and FY 2020 increases slightly while quantities increase significantly. This is due to the reintroduction of the lower cost SNE configuration item in FY 2020.

Quantity Summary										
FY 2017 President's Budget / December 2015 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Development	56	0	0	0	0	0	0	0	0	56
Production	0	1367	170	12	139	114	250	241	1381	3674
PB 2017 Total	56	1367	170	12	139	114	250	241	1381	3730
PB 2016 Total	56	1303	248	201	129	135	266	254	1047	3639
Delta	0	64	-78	-189	10	-21	-16	-13	334	91

## Cost and Funding

### Annual Funding By Appropriation

Annual Funding							
2040   RDT&E   Research, Development, Test, and Evaluation, Army							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2007	--	--	--	--	--	--	8.2
2008	--	--	--	--	--	--	107.6
2009	--	--	--	--	--	--	91.3
2010	--	--	--	--	--	--	18.3
2011	--	--	--	--	--	--	16.8
2012	--	--	--	--	--	--	9.3
2013	--	--	--	--	--	--	2.7
2014	--	--	--	--	--	--	1.1
2015	--	--	--	--	--	--	3.1
2016	--	--	--	--	--	--	3.8
2017	--	--	--	--	--	--	4.9
2018	--	--	--	--	--	--	6.0
2019	--	--	--	--	--	--	4.8
2020	--	--	--	--	--	--	5.1
2021	--	--	--	--	--	--	13.5
Subtotal	56	--	--	--	--	--	296.5

Annual Funding 2040   RDT&E   Research, Development, Test, and Evaluation, Army							
Fiscal Year	Quantity	BY 2010 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2007	--	--	--	--	--	--	8.4
2008	--	--	--	--	--	--	108.6
2009	--	--	--	--	--	--	91.0
2010	--	--	--	--	--	--	18.0
2011	--	--	--	--	--	--	16.2
2012	--	--	--	--	--	--	8.8
2013	--	--	--	--	--	--	2.5
2014	--	--	--	--	--	--	1.0
2015	--	--	--	--	--	--	2.8
2016	--	--	--	--	--	--	3.4
2017	--	--	--	--	--	--	4.3
2018	--	--	--	--	--	--	5.1
2019	--	--	--	--	--	--	4.0
2020	--	--	--	--	--	--	4.2
2021	--	--	--	--	--	--	10.9
Subtotal	56	--	--	--	--	--	289.2

The RDT&E cost breach in FY 2015 is due to an increase in FY 2017 to FY 2021 funding to provide additional capability to develop small, phased array satellite communication on-the-move capability for armored platforms.

Annual Funding 2035   Procurement   Other Procurement, Army							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2009	56	135.8	--	--	135.8	0.1	135.9
2010	248	333.1	--	71.9	405.0	62.2	467.2
2011	96	185.1	--	74.4	259.5	80.7	340.2
2012	532	543.1	--	44.5	587.6	105.9	693.5
2013	66	209.8	--	30.1	239.9	176.4	416.3
2014	124	197.1	--	39.4	236.5	90.4	326.9
2015	245	274.2	--	17.0	291.2	96.7	387.9
2016	170	281.5	--	20.0	301.5	154.6	456.1
2017	12	115.2	--	10.5	125.7	186.1	311.8
2018	139	386.6	--	10.7	397.3	228.1	625.4
2019	114	363.3	--	10.9	374.2	238.7	612.9
2020	250	470.5	--	11.2	481.7	231.1	712.8
2021	241	442.0	--	11.4	453.4	225.9	679.3
2022	223	453.9	--	11.6	465.5	232.3	697.8
2023	222	420.7	--	11.9	432.6	240.3	672.9
2024	220	427.3	--	12.1	439.4	246.2	685.6
2025	192	412.4	--	12.3	424.7	273.8	698.5
2026	176	378.8	--	12.6	391.4	288.7	680.1
2027	199	397.9	--	12.8	410.7	329.1	739.8
2028	149	325.5	--	13.1	338.6	316.3	654.9
2029	--	--	--	13.3	13.3	355.7	369.0
Subtotal	3674	6753.8	--	451.7	7205.5	4159.3	11364.8

Annual Funding 2035   Procurement   Other Procurement, Army							
Fiscal Year	Quantity	BY 2010 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2009	56	134.9	--	--	134.9	0.1	135.0
2010	248	325.0	--	70.1	395.1	60.7	455.8
2011	96	177.4	--	71.3	248.7	77.4	326.1
2012	532	512.8	--	42.0	554.8	100.0	654.8
2013	66	194.2	--	27.9	222.1	163.2	385.3
2014	124	179.4	--	35.9	215.3	82.3	297.6
2015	245	246.2	--	15.3	261.5	86.8	348.3
2016	170	249.5	--	17.7	267.2	137.0	404.2
2017	12	100.2	--	9.1	109.3	161.9	271.2
2018	139	329.7	--	9.1	338.8	194.6	533.4
2019	114	303.8	--	9.1	312.9	199.6	512.5
2020	250	385.7	--	9.2	394.9	189.4	584.3
2021	241	355.2	--	9.2	364.4	181.5	545.9
2022	223	357.6	--	9.1	366.7	183.1	549.8
2023	222	325.0	--	9.2	334.2	185.6	519.8
2024	220	323.6	--	9.2	332.8	186.4	519.2
2025	192	306.2	--	9.1	315.3	203.3	518.6
2026	176	275.7	--	9.2	284.9	210.2	495.1
2027	199	284.0	--	9.1	293.1	234.8	527.9
2028	149	227.7	--	9.2	236.9	221.3	458.2
2029	--	--	--	9.1	9.1	244.0	253.1
Subtotal	3674	5593.8	--	399.1	5992.9	3303.2	9296.1

## Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
<b>Approval Date</b>	6/5/2007	9/27/2013
<b>Approved Quantity</b>	408	1030
<b>Reference</b>	Restructure ADM	WIN-T Inc 2 Additional LRIP ADM
<b>Start Year</b>	2009	2009
<b>End Year</b>	2010	2015

The Current Total LRIP Quantity is more than 10% of the total production quantity due to the following:

The WIN-T Inc 2 LRIP program is consistent with DAE direction contained in the WIN-T ADM dated June 5, 2007 and corresponding OSD Cost Analysis Improvement Group estimate. The ADM states "The Army will fund to the Chairman of the Cost Analysis Improvement Group's (CAIG) estimate for Increments 1 and 2; procure Increment 1 equipment to complete fielding to about 199 Army units; and procure Increment 2 equipment for about 37 Army units, based on affordability through FY 2013." The current WIN-T Inc 2 program only procured 25 Army units through FY 2013.

The original LRIP quantity was reported to Congress in the initial September 2007 SAR and again in the December 2007 SAR. This initial LRIP plan consisted of a two-year LRIP phase with quantities totaling 408 communications nodes, or approximately 22%, of the total Army Procurement Objective (APO) of 1,837. These LRIP units were to be procured over two years, with the first year providing units to support Production Qualification Test and Initial Operational Test (IOT) and the second year supporting production ramp up and fielding.

The LRIP start year changed from 2009 to 2010 as a result of program schedule changes. The Milestone C meeting was held on February 3, 2010 after which the program entered into LRIP. The initial LRIP quantities and costs were funded with FY 2009 dollars.

The September 26, 2012 ADM approved an additional LRIP Lot 3 of 538 communications nodes to bring the total LRIP quantities to 938 communications nodes. The WIN-T Inc 2 LRIP plan consisted of a three-year LRIP phase with quantities totaling 932 communications nodes, or approximately 44%, of the total APO of 2,100. The PM received approval to exceed the 10% limit. The first year of LRIP provided units to support IOT and the second and third years permitted an orderly increase in the production rate for the system sufficient to lead to FRP upon the successful completion of operational testing.

The September 27, 2013 ADM approved an additional LRIP Lot 4 (excluding 119 Soldier Network Extension CIs) and Lot 5a training base articles. The duration of the LRIP phase was six years, FY 2009 through FY 2015. During this time Lots 1-5a were procured. The total LRIP quantity was 1,030 communications nodes, approximately 28% of the total 3,674 production communications nodes required.

The June 3, 2015 ADM authorized the Army to enter into FRP. Lots 5b and 6, procured in June 2015, were the first FRP lots procured.



**Foreign Military Sales**

None

**Nuclear Costs**

None

## Unit Cost

### Unit Cost Report

Item	BY 2010 \$M	BY 2010 \$M	% Change
	Current UCR Baseline (Jun 2015 APB)	Current Estimate (Dec 2015 SAR)	

#### Program Acquisition Unit Cost

Cost	9389.3	9585.3	
Quantity	3730	3730	
Unit Cost	2.517	2.570	+2.11

#### Average Procurement Unit Cost

Cost	9128.5	9296.1	
Quantity	3674	3674	
Unit Cost	2.485	2.530	+1.81

Item	BY 2010 \$M	BY 2010 \$M	% Change
	Original UCR Baseline (Oct 2007 APB)	Current Estimate (Dec 2015 SAR)	

#### Program Acquisition Unit Cost

Cost	3617.2	9585.3	
Quantity	1893	3730	
Unit Cost	1.911	2.570	<b>+34.48<sup>1</sup></b>

#### Average Procurement Unit Cost

Cost	3384.5	9296.1	
Quantity	1837	3674	
Unit Cost	1.842	2.530	<b>+37.35<sup>1</sup></b>

Item	TY \$M		TY % Change
	Current UCR Baseline (Jun 2015 APB)	Current Estimate (Dec 2015 SAR)	

#### Program Acquisition Unit Cost (PAUC)

Cost	11351.9	11661.3	
Unit Cost	3.043	3.126	+2.73

#### Average Procurement Unit Cost (APUC)

Cost	11089.6	11364.8	
Unit Cost	3.018	3.093	+2.49

Item	TY \$M		TY % Change
	Original UCR Baseline (Oct 2007 APB)	Current Estimate (Dec 2015 SAR)	
Program Acquisition Unit Cost (PAUC)			
Cost	3907.0	11661.3	
Unit Cost	2.064	3.126	+51.45
Average Procurement Unit Cost (APUC)			
Cost	3672.0	11364.8	
Unit Cost	1.999	3.093	+54.73

<sup>1</sup> Nunn-McCurdy Breach

Unit Cost Breach Data		
Changes From Previous SAR	\$M/Qty.	Percent
PAUC (BY \$M)	-0.032	-1.23
APUC (BY \$M)	-0.039	-1.52
PAUC Quantity	91	0.00
PAUC (TY \$M)	-0.022	-0.70
APUC (TY \$M)	-0.031	-0.99

Initial SAR Information - Sep 2007	BY2007 \$M	TY \$M
Program Acquisition Cost	1.8	2.1

#### Unit Cost PAUC Changes

The PAUC decreased from the December 2014 SAR to the December 2015 SAR due to increased quantity of Nodes procured and revised Configuration Item (CI) unit costs. The PAUC increased from the June 2015 APB due to an additional year of procurement.

#### Unit Cost APUC Changes

The APUC decreased from the December 2014 SAR to the December 2015 SAR due to increased quantity of Nodes procured and revised CI unit costs. The APUC increased from the June 2015 APB due to an additional year of procurement.

#### Impact of Performance or Schedule Changes

Schedule negatively impacts the PAUC and APUC through the addition of years to the program. WIN-T Inc 2 incurs additional fixed costs associated with program management, hardware refresh, and software licenses spread over fewer nodes being procured under the Army's modernization strategy.

#### Program Management or Control

The PM is aggressively controlling unit cost growth on the program as demonstrated by the decrease in PAUC and APUC

since the December 2014 SAR. As a result, since the Original APB, the cost of the individual CIs have, on the average, shown overall cost reductions. The PM is seeking to negotiate lower prices on CIs and incentives to reduce costs over the life of the program.

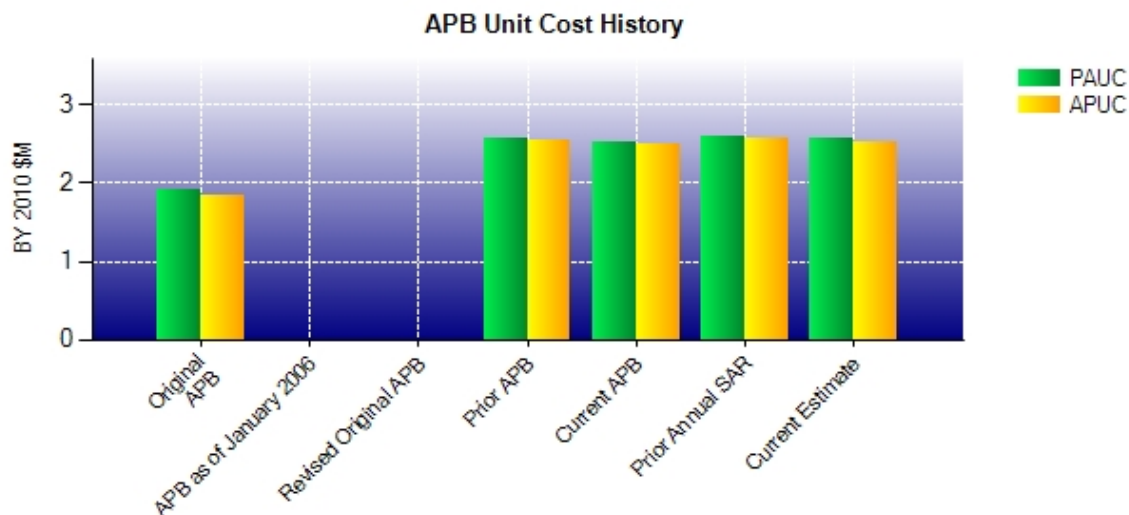
#### **Cost Control Actions**

The PM employs the best practices contained within the Better Buying Power to control future costs. In particular, WIN-T Inc 2 plans to use incentive type contracts on the follow-on production contract, gain efficiencies in the hardware refresh cycle and explore ways to promote competition for subsystem components. These initiatives have the potential to yield significant savings throughout the life cycle. Additionally, through Alpha contracting negotiations for the follow-on production contract the program office is establishing more accountability requirements for the prime contractor to incentivize productivity. The program office and Communications-Electronics Command will implement a plan for incremental transition of Lots 1-6 to Post-Production Software Support. This transition is scheduled for FY 2020 and will provide relief to the PAUC and APUC.

#### **Nunn-McCurdy Comments**

A Program Deviation Report and a revised APB were signed by the Army Acquisition Executive on January 23, 2015. The DAE was informed of the program deviation on February 9, 2015. The revised APB was signed by the DAE on February 12, 2015. Congressional notification was completed on February 25, 2015.

## Unit Cost History



Item	Date	BY 2010 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	Oct 2007	1.911	1.842	2.064	1.999
APB as of January 2006	N/A	N/A	N/A	N/A	N/A
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	Feb 2015	2.576	2.544	3.149	3.125
Current APB	Jun 2015	2.517	2.485	3.043	3.018
Prior Annual SAR	Dec 2014	2.602	2.569	3.148	3.124
Current Estimate	Dec 2015	2.570	2.530	3.126	3.093

## SAR Unit Cost History

Initial SAR Baseline to Current SAR Baseline (TY \$M)									
Initial PAUC Development Estimate	Changes								PAUC Production Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
2.064	-0.055	-0.063	0.016	0.000	0.093	0.000	0.200	0.191	2.255

Current SAR Baseline to Current Estimate (TY \$M)									
PAUC Production Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
2.255	-0.026	0.199	0.084	-0.141	-0.083	0.000	0.838	0.871	3.126

Initial SAR Baseline to Current SAR Baseline (TY \$M)									
Initial APUC Development Estimate	Changes								APUC Production Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
1.999	-0.055	-0.055	0.017	0.000	0.079	0.000	0.205	0.191	2.190

Current SAR Baseline to Current Estimate (TY \$M)									
APUC Production Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
2.190	-0.027	0.228	0.086	-0.143	-0.092	0.000	0.851	0.903	3.093

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	Jun 2007	N/A	Jun 2007
Milestone C	N/A	Apr 2009	N/A	Mar 2010
IOC	N/A	Aug 2011	N/A	Aug 2013
Total Cost (TY \$M)	N/A	3907.0	N/A	11661.3
Total Quantity	N/A	1893	N/A	3730
PAUC	N/A	2.064	N/A	3.126

## Cost Variance

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	266.5	4730.4	--	4996.9
Previous Changes				
Economic	+1.2	-27.6	--	-26.4
Quantity	--	+3937.1	--	+3937.1
Schedule	--	+232.5	--	+232.5
Engineering	--	-526.8	--	-526.8
Estimating	-5.4	+26.6	--	+21.2
Other	--	--	--	--
Support	--	+2821.7	--	+2821.7
Subtotal	-4.2	+6463.5	--	+6459.3
Current Changes				
Economic	--	-71.3	--	-71.3
Quantity	--	+219.8	--	+219.8
Schedule	--	+82.2	--	+82.2
Engineering	--	--	--	--
Estimating	+34.2	-363.7	--	-329.5
Other	--	--	--	--
Support	--	+303.9	--	+303.9
Subtotal	+34.2	+170.9	--	+205.1
Total Changes	+30.0	+6634.4	--	+6664.4
CE - Cost Variance	296.5	11364.8	--	11661.3
CE - Cost & Funding	296.5	11364.8	--	11661.3

Summary BY 2010 \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	264.7	4421.3	--	4686.0
Previous Changes				
Economic	--	--	--	--
Quantity	--	+3113.8	--	+3113.8
Schedule	--	+3.5	--	+3.5
Engineering	--	-445.7	--	-445.7
Estimating	-3.9	+15.8	--	+11.9
Other	--	--	--	--
Support	--	+2097.8	--	+2097.8
Subtotal	-3.9	+4785.2	--	+4781.3
Current Changes				
Economic	--	--	--	--
Quantity	--	+153.8	--	+153.8
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	+28.4	-275.2	--	-246.8
Other	--	--	--	--
Support	--	+211.0	--	+211.0
Subtotal	+28.4	+89.6	--	+118.0
Total Changes	+24.5	+4874.8	--	+4899.3
CE - Cost Variance	289.2	9296.1	--	9585.3
CE - Cost & Funding	289.2	9296.1	--	9585.3

Previous Estimate: December 2014



RDT&E	\$M	
Current Change Explanations	Base Year	Then Year
Decrease due to prior year fact of life Congressional adjustments. (Estimating)	-0.1	-0.1
Increase due to the addition of the Distributed Embedded Satellite Communication On-The-Move Standard Terminal Architecture capability for the WIN-T Inc 2 Armor Brigade Combat Teams. (Estimating)	+28.5	+34.3
RDT&E Subtotal	+28.4	+34.2

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-71.3
Quantity variance resulting from an increase of 91 Nodes from 3,583 to 3,674 due to the new Army Structure Memorandum FY 2018 to FY 2022 dated October 2015. (Quantity)	+153.8	+219.8
Stretch-out of procurement buy profile by one year from FY 2028 to FY 2029 due to the funding reductions from FY 2015 to FY 2021. (Schedule)	0.0	+82.2
Decrease due to a revised estimate for Configuration Items unit costs based on an analysis of vendor actuals. (Estimating)	-281.7	-370.8
Adjustment for current and prior escalation. (Estimating)	+6.5	+7.1
Adjustment for current and prior escalation. (Support)	+2.2	+2.7
Increase in Other Support is due to a change in Fielding, New Equipment Training, and Software Maintenance costs resulting from increase of 91 nodes from 3,583 to 3,674 and an additional year of procurement. (Support) (QR)	+51.9	+97.0
Increase in Initial Spares quantity resulting from increase of 91 Nodes from 3,583 to 3,674, an additional year of procurement, and revised spares kit configurations and pricing. (Support) (QR)	+156.9	+204.2
Procurement Subtotal	+89.6	+170.9

(QR) Quantity Related

## Contracts

### Contract Identification

**Appropriation:** Procurement  
**Contract Name:** WIN-T Increment 2 Production  
**Contractor:** General Dynamics C4 Systems, Inc.  
**Contractor Location:** 400 John Quincy Adams Rd  
 Taunton, MA 02780  
**Contract Number:** W15P7T-10-D-C007  
**Contract Type:** Firm Fixed Price (FFP), Fixed Price Incentive(Firm Target) (FPIF)  
**Award Date:** March 24, 2010  
**Definitization Date:** December 30, 2010

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
299.7	299.7	160	2123.0	2123.0	1367	2123.0	2123.0

### Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to the procurement of Lots 1B through 5a which equate to an additional 870 nodes LRIP and Lots 5b and 6 which equate to 337 nodes FRP. Additionally, production support efforts were added to the contract price.

### Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this (FFP/FPIF) contract.

### General Contract Variance Explanation

Cost and schedule variances are not reported for this contract because no active task order or related task order exceeds the threshold requirement for EVM reporting.

## Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	56	56	56	100.00%
Production	883	883	3674	24.03%
Total Program Quantity Delivered	939	939	3730	25.17%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	11661.3	Years Appropriated	10
Expended to Date	2968.3	Percent Years Appropriated	43.48%
Percent Expended	25.45%	Appropriated to Date	3486.2
Total Funding Years	23	Percent Appropriated	29.90%

The above data is current as of February 09, 2016.

## Operating and Support Cost

### Cost Estimate Details

Date of Estimate:	January 14, 2016
Source of Estimate:	POE
Quantity to Sustain:	3674
Unit of Measure:	Node
Service Life per Unit:	20.00 Years
Fiscal Years in Service:	FY 2012 - FY 2049

1. A Node is defined as Tactical Communications Node, Point of Presence, and Soldier Network Extension Configuration Item.
2. Quantity of 3,674 Nodes to sustain does not include 56 Nodes procured in RDT&E.
3. Costs are estimated in accordance with Department of the Army Cost Analysis Manual, Deputy Assistant Secretary of the Army, U.S. Army Cost and Economic Analysis Center, May 2002.
4. O&S cost factors taken from the Army Operating and Support Management Information System.
5. Military Personnel costs are taken from the Army Military Cost System (AMCOS).
6. Mission Pay and Allowance estimates based on the WIN-T manpower estimates included in the WIN-T Inc 2 CARD dated November 21, 2014.
7. Estimated costs are based on the operating tempo approved by the Army's Training and Doctrine Command as well as individual Configuration Item component reliability.

### Sustainment Strategy

Costs are based on the two-level maintenance concept. WIN-T Inc 2 employs the Army's two-level maintenance concept focusing on organic field level operations and a combination of contractor and Government services for sustainment / depot-level operations. All maintenance planning will comply with applicable section 2460, title 10, U.S.C. Core Depot statutes.

### Antecedent Information

No Antecedent. WIN-T Inc 2 provides a different (on-the-move) capability from WIN-T Inc 1 (at-the-halt) communications and is not descended from the WIN-T Inc 1 system. Both programs are being fielded simultaneously to separate users, one is not replacing the other.

Annual O&S Costs BY2010 \$K			
Cost Element	WIN-T Inc 2 Average Annual Cost Per Node	N/A (Antecedent) N/A	
Unit-Level Manpower	78.742		0.000
Unit Operations	2.288		0.000
Maintenance	29.189		0.000
Sustaining Support	18.579		0.000
Continuing System Improvements	14.249		0.000
Indirect Support	0.000		0.000
Other	0.000		0.000
Total	143.047		--

Item	Total O&S Cost \$M			
	WIN-T Inc 2			N/A (Antecedent)
	Current Production APB Objective/Threshold		Current Estimate	
Base Year	10613.4	11674.7	10511.1	N/A
Then Year	15198.3	N/A	15152.0	N/A

#### Equation to Translate Annual Cost to Total Cost

Multiplying the total average annual unitized cost by 20 years and by 3,674 communications nodes will achieve the total costs.

$$\$143.047K * 20 * 3,674 = \$10,511,093K - \$10,511.1M$$

O&S Cost Variance		
Category	BY 2010 \$M	Change Explanations
Prior SAR Total O&S Estimates - Dec 2014 SAR	11196.8	
Programmatic/Planning Factors	59.5	Increase in cost due to 91 additional Nodes from 3,583 to 3,674 due to alignment with the new Army Structure Memorandum FY 2018 - FY 2022 and an additional year of support caused by the FY 2015 - FY 2021 funding decrements.
Cost Estimating Methodology	0.0	
Cost Data Update	-453.1	Reduction due to revised spares configuration, pricing, and Mean Time Between Failures; and revised software subscription costs.
Labor Rate	-292.1	Reduction due to revised Military Personnel costs from the AMCOS database.
Energy Rate	0.0	
Technical Input	0.0	
Other	0.0	
Total Changes	-685.7	
Current Estimate	10511.1	

#### Disposal Estimate Details

**Date of Estimate:** January 14, 2016  
**Source of Estimate:** POE  
**Disposal/Demilitarization Total Cost (BY 2010 \$M):** Total costs for disposal of all Node are 32.7

Disposal costs increased by \$13.9M from \$18.8M to \$32.7M due to revised lithium ion battery disposal costs.